the bare affirmation of it. But the essence of modern biology, its main motive, is the desire to find some causal explanation of this relation and of all similar relations of affinity and descent and heredity, of resemblance between individuals and between varieties, species, genera, etc. And already this search for causal relations has been abundantly justified, in that it has led to knowledge which we should never have attained without it, knowledge which guides us to successful action when we seek to control these relations; as when the geneticists succeed in producing a rustless wheat, or the many new important varieties of animals and plants.

Darwin was not the first to teach that the resemblances between species imply that all species have arisen by way of evolution from other and in the main simpler species. The essence of his work, that which led to the rapid general acceptance of organic evolution as historical fact, was not his descriptions of species and their resemblances (immense progress in such description might have been made without leading to any such result); it was rather his causal theory of the way in which the evolution of one species from another may have been effected; and it is this causal theory which has stimulated a vast amount of further research for the purpose of testing, and, if possible, verifying the theory. I think it may also be said that lack of clear definition of the causal factors postulated by the theory has been the ground of much of the misunderstanding in which the theory has been involved.

If we turn to the sciences of inorganic nature, the same truth appears clearly—namely, that the endeavour after explanation in terms of causation has been the very life-breath of science, the main ground of its progress. The